

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS

1-16. (Canceled)

17. (Currently Amended) An apparatus for transmitting acoustic signals comprising:
a synthesizing apparatus for electrically synthesizing an audible sound signal and
an insertion signal, and outputting a synthesized sound electrical signal;
an acoustic signal outputting apparatus for converting the synthesized sound
electrical signal and outputting the acoustic signal externally;
an extraction apparatus for extracting said insertion signal based on the
synthesized sound electrical signal output from the synthesizing apparatus;
a sound collection apparatus for receiving an acoustic signal output from the
acoustic signal outputting apparatus and re-converting to a synthesized sound electrical
signal, the extraction apparatus extracting said insertion signal using the synthesized
sound electrical signal converted by the sound collection apparatus, according to claim 9,
wherein said insertion signal is being a code information corresponding to a character
string in a natural language; and provided are:
a machine control section for controlling said machine according to the signal
extracted by the extraction apparatus; and

a sound generation machine for pronouncing the character string in a natural language corresponding to the code information extracted according to command of the machine control section.

18. (Currently Amended) An apparatus for transmitting acoustic signals comprising:
a synthesizing apparatus for electrically synthesizing an audible sound signal and
an insertion signal, and outputting a synthesized sound electrical signal;

an acoustic signal outputting apparatus for converting the synthesized sound
electrical signal and outputting the acoustic signal externally;

an extraction apparatus for extracting said insertion signal based on the
synthesized sound electrical signal output from the synthesizing apparatus;

a sending apparatus for sending a synthesized sound electrical signal output from
the synthesizing apparatus;

a receiving apparatus for receiving the synthesized sound electrical signal sent by
the sending apparatus; wherein the extraction apparatus extracts said insertion signal
using the synthesized sound electrical signal received by the receiving apparatus,
~~according to claim 10, wherein said insertion signal is being~~ a code information

~~corresponding to a character string in a natural language; and provided are:~~

a machine control section for controlling said machine according to the signal
extracted by the extraction apparatus; and

a sound generation machine for pronouncing the character string in a natural
language corresponding to the code information extracted according to command of the
machine control section.

19-21. (Canceled)

22. (Currently Amended) A method for transmitting acoustic signals comprising:
a synthesizing step for synthesizing an audible sound signal and an insertion
signal to generate a synthesized sound electrical signal;
an acoustic signal outputting step for converting the synthesized sound electrical
signal to an acoustic signal and outputting the acoustic sound externally;
a transmitting step for transmitting the synthesized sound electrical signal;
an extracting step for extracting said insertion signal from the synthesized sound
electrical signal that has been transmitted; and
a machine control step for controlling a machine according to the signal extracted
in the extracting step;
wherein said transmitting step relates to sending the synthesized sound electrical
signal using a sending apparatus at the sending side, and the signal is received at the
receiving side using a receiving apparatus,
wherein in said synthesizing step, an audible sound is divided into a plurality of
channels and said audible signal in each channel and said insertion signal are synthesized
individually to produce a synthesized sound electrical signal in each channel;
in said acoustic sound outputting step, said synthesized sound electrical signal in
each channel is converted to an acoustic signal which is output externally; and
in said transmitting step, said synthesized sound electrical signal is transmitted for
each channel through a transmission path,

wherein said channel is comprised by two channels represented by a left channel and a right channel for a stereophonic audible sound signal,

wherein in said synthesizing step, an audible sound signal in each channel is input into a lowpass filter and a highpass filter, respectively, and, after controlling output levels of the highpass filter in both channels according to the insertion signal, each controlled output is synthesized with a filtered signal processed through the lowpass filter to generate a synthesized sound electrical signal for each channel; and

in said extracting step, the synthesized sound electrical signal in each channel is individually input in the highpass filter, and the insertion signal is extracted by comparing output results from the highpass filters.

23-25. (Canceled)

26. (Currently Amended) An apparatus for transmitting acoustic signals comprising:
a synthesizing apparatus for electrically synthesizing an audible sound signal and
an insertion signal, and outputting a synthesized sound electrical signal;

an acoustic signal outputting apparatus for converting the synthesized sound
electrical signal and outputting the acoustic signal externally;

an extraction apparatus for extracting said insertion signal based on the
synthesized sound electrical signal output from the synthesizing apparatus;

a sending apparatus for sending a synthesized sound electrical signal output from
the synthesizing apparatus;

a receiving apparatus for receiving the synthesized sound electrical signal sent by the sending apparatus; wherein the extraction apparatus extracts said insertion signal using the synthesized sound electrical signal received by the receiving apparatus, and a machine control section for controlling an operation of a machine using the signal extracted by the extraction apparatus,

wherein the synthesizing apparatus is provided with a plurality of synthesizing sections for individually synthesizing an audible sound signal separated into a plurality of channels and the insertion signal;

the acoustic signal outputting apparatus is provided with a plurality of acoustic output sections for converting the synthesized sound electrical signal in each channel into an acoustic signal and exporting externally; and

the sending apparatus and the receiving apparatus receive and transmit synthesized sound electrical signals in individual channels through transmission paths;

wherein said channel is comprised by two channels represented by a left channel and a right channel for a stereophonic audible sound signal; and according to claim 25,

wherein said synthesizing apparatus is provided with a lowpass filter and a highpass filter for inputting an audible sound signal of each channel; a level controller for controlling output levels of both channels of a highpass filter according to the insertion r signal; and a mixer for mixing a signal output from the level controller and a filtered signal processed through a lowpass filter; and

said extraction apparatus is provided with a highpass filter for inputting the synthesized sound electrical signal of each channel and a comparator for extracting the insertion signal by comparing output results from highpass filters.

27. (Currently Amended) An apparatus for transmitting acoustic signals comprising:
a synthesizing apparatus for electrically synthesizing an audible sound signal and
an insertion signal, and outputting a synthesized sound electrical signal;
an acoustic signal outputting apparatus for converting the synthesized sound
electrical signal and outputting the acoustic signal externally;
an extraction apparatus for extracting said insertion signal based on the
synthesized sound electrical signal output from the synthesizing apparatus;
a sending apparatus for sending a synthesized sound electrical signal output from
the synthesizing apparatus;
a receiving apparatus for receiving the synthesized sound electrical signal sent by
the sending apparatus; wherein the extraction apparatus extracts said insertion signal
using the synthesized sound electrical signal received by the receiving apparatus, and
a machine control section for controlling an operation of a machine using the
signal extracted by the extraction apparatus;
wherein the synthesizing apparatus is provided with a plurality of synthesizing
sections for individually synthesizing an audible sound signal separated into a plurality
of channels and the insertion signal;
the acoustic signal outputting apparatus is provided with a plurality of acoustic
output sections for converting the synthesized sound electrical signal in each channel
into an acoustic signal and exporting externally; and

the sending apparatus and the receiving apparatus receive and transmit synthesized sound electrical signals in individual channels through transmission paths; and according to claim 23,

wherein said audible sound signal is a music signal;

said machine to be controlled is a robot; and

said machine control signal is a dance operation signal for controlling a dance operation of the robot in synchronization with the music signal.

28. (Currently Amended) An apparatus for transmitting acoustic signals comprising: a synthesizing apparatus for electrically synthesizing an audible sound signal and an insertion signal, and outputting a synthesized sound electrical signal;

an acoustic signal outputting apparatus for converting the synthesized sound electrical signal and outputting the acoustic signal externally;

an extraction apparatus for extracting said insertion signal based on the synthesized sound electrical signal output from the synthesizing apparatus;

a sending apparatus for sending a synthesized sound electrical signal output from the synthesizing apparatus;

a receiving apparatus for receiving the synthesized sound electrical signal sent by the sending apparatus; wherein the extraction apparatus extracts said insertion signal using the synthesized sound electrical signal received by the receiving apparatus, and

a machine control section for controlling an operation of a machine using the signal extracted by the extraction apparatus;

wherein the synthesizing apparatus is provided with a plurality of synthesizing sections for individually synthesizing an audible sound signal separated into a plurality of channels and the insertion signal;

the acoustic signal outputting apparatus is provided with a plurality of acoustic output sections for converting the synthesized sound electrical signal in each channel into an acoustic signal and exporting externally; and

the sending apparatus and the receiving apparatus receive and transmit synthesized sound electrical signals in individual channels through transmission paths;

wherein said audible sound signal is a music signal;

said machine to be controlled is a robot; and

said machine control signal is a dance operation signal for controlling a dance operation of the robot in synchronization with the music signal; and according to claim 27,

wherein said dance operation signal is a code signal to express a pattern of the dance operation of the robot.

29. (Currently Amended) An apparatus for transmitting acoustic signals comprising:
a synthesizing apparatus for electrically synthesizing an audible sound signal and an insertion signal, and outputting a synthesized sound electrical signal;
an acoustic signal outputting apparatus for converting the synthesized sound electrical signal and outputting the acoustic signal externally;
an extraction apparatus for extracting said insertion signal based on the synthesized sound electrical signal output from the synthesizing apparatus;

a sending apparatus for sending a synthesized sound electrical signal output from the synthesizing apparatus;

a receiving apparatus for receiving the synthesized sound electrical signal sent by the sending apparatus; wherein the extraction apparatus extracts said insertion signal using the synthesized sound electrical signal received by the receiving apparatus, and

a machine control section for controlling an operation of a machine using the signal extracted by the extraction apparatus;

wherein the synthesizing apparatus is provided with a plurality of synthesizing sections for individually synthesizing an audible sound signal separated into a plurality of channels and the insertion signal;

the acoustic signal outputting apparatus is provided with a plurality of acoustic output sections for converting the synthesized sound electrical signal in each channel into an acoustic signal and exporting externally; and

the sending apparatus and the receiving apparatus receive and transmit synthesized sound electrical signals in individual channels through transmission paths;

wherein said audible sound signal is a music signal;

said machine to be controlled is a robot; and

said machine control signal is a dance operation signal for controlling a dance operation of the robot in synchronization with the music signal; and according to claim

27,

wherein said synthesizing apparatus, when synthesizing a dance operation signal and an audible sound signal which is the music signal, allows said dance operation signal to precede said audible sound signal.

30. (Canceled)

31. (Currently Amended) An apparatus for transmitting acoustic signals,
comprising:

a synthesizing step for synthesizing an audible sound signal and an insertion
signal electrically to generate a synthesized sound electrical signal;

a modulating step for generating a radio signal by modulating with the
synthesized sound electrical signal;

a transmitting step for transmitting the radio signal;

a demodulating step for receiving the radio signal and demodulating the
received signal to generate the audible sound signal;

an acoustic signal outputting step for converting the synthesized sound electrical
signal into an acoustic signal and outputting a converted signal;

an extracting step for extracting the insertion signal according to the synthesized
sound electrical signal demodulated in said demodulating step; and

a control step for controlling an apparatus according to the signal extracted in
said extracting step, according to claim 30;

wherein said demodulating step and said acoustic signal outputting step and said
extracting step are performed in an apparatus installed in an automotive vehicle, and in
said control step, a car navigation apparatus is controlled.

32-34. (Canceled)

35. (Currently Amended) An apparatus for transmitting acoustic signals, comprising:
a synthesizing apparatus for electrically synthesizing an audible sound signal
and an insertion signal to generate a synthesized sound electrical signal;
a modulating apparatus for generating a radio signal by modulating with the
synthesized sound electrical signal;
a demodulating apparatus for receiving the radio signal and demodulating to
generate the synthesized sound electrical signal;
an acoustic signal outputting apparatus for converting the synthesized sound
electrical signal into an acoustic signal and outputting the acoustic signal;
an extracting apparatus for extracting the insertion signal from the synthesized
sound electrical signal demodulated by the demodulating apparatus; and
a control apparatus for controlling an apparatus by the insertion signal extracted
by the extraction apparatus, according to claim 34,
wherein said demodulating apparatus and said acoustic signal outputting
apparatus and said extraction apparatus are installed in an automotive vehicle, and said
control apparatus controls a car navigation apparatus.

36-37. (Canceled)

38. (Currently Amended) An apparatus for transmitting acoustic signals, comprising:
a synthesizing apparatus for electrically synthesizing an audible sound signal
and an insertion signal to generate a synthesized sound electrical signal;

a modulating apparatus for generating a radio signal by modulating with the synthesized sound electrical signal;

a demodulating apparatus for receiving the radio signal and demodulating to generate the synthesized sound electrical signal;

an acoustic signal outputting apparatus for converting the synthesized sound electrical signal into an acoustic signal and outputting the acoustic signal;

an extracting apparatus for extracting the insertion signal from the synthesized sound electrical signal demodulated by the demodulating apparatus; and

a control apparatus for controlling an apparatus by the insertion signal extracted by the extraction apparatus,

wherein said demodulating apparatus and said acoustic signal outputting apparatus and said extraction apparatus are installed in an automotive vehicle, and said control apparatus controls a car navigation apparatus, and ~~according to claim 35,~~

wherein said audible sound signal represents a broadcast content of a program or a commercial message;

said insertion includes a name, a telephone number, location information, and information on a uniform resource locator (URL) that are related to the broadcast content; and

said control apparatus controls so as to register names, telephone numbers, location information, and information on uniform resource locators (URL) that are related to contents of broadcasting in the car navigation apparatus.

39-45. (Canceled)

46. (Withdrawn) A computer-readable recording medium containing a program, that receives as an input a synthesized sound electrical signal generated by receiving an acoustic signal input into a microphone, comprised by;

an extracting step for separating and extracting an audible sound signal and an insertion signal;

a regenerating step for regenerating a URL from said insertion signal;

an information obtaining step for accessing a home page on the Internet using the URL and obtaining information from the home page of the URL.

47. (Withdrawn) An apparatus for transmitting acoustic signals comprising;

a synthesizing apparatus for electrically synthesizing an audible sound signal and an insertion signal to generate a synthesized sound electrical signal;

a sending apparatus for generating a modulated radio signal by modulating a radio carrier wave with the synthesized sound electrical signal and sending the modulated radio signal;

a receiving apparatus for receiving the modulated radio signal and demodulating the synthesized sound electrical signal according to the radio signal;

an acoustic signal outputting apparatus for converting the synthesized sound electrical signal into an acoustic signal and outputting the acoustic signal;

an extraction apparatus for capturing the acoustic signal, and from a synthesized sound electrical signal thus obtained, extracting said insertion signal; and

a control apparatus for controlling a robot according to said insertion signal extracted by the extracting section.

48. (Withdrawn) An apparatus for transmitting acoustic signals according to claim 47, wherein said insertion signal extracted by the extraction apparatus represents a command to control an operation of the robot; and an operation command correlation table is provided that pre-defines relationships between commands and operations of the robot.

49. (Withdrawn) An apparatus for transmitting acoustic signals according to claim 47, wherein said insertion signal extracted by the extraction apparatus represents a command to control an operation of the robot and sound generation; and provided are: a robot command operation correlation table that pre-defines commands and robot operations; and

a robot speech command correlation table that pre-defines commands and robot sound generation.

50. (Withdrawn) An apparatus for transmitting acoustic signals according to claim 47, wherein provided are:
an input apparatus for a robot that is controlled by said control apparatus; and
a receiving side communication control apparatus to send a signal input from the input apparatus to a network in order to feedback to the sending apparatus side.

51. (Withdrawn) An apparatus for transmitting acoustic signals for controlling a robot, comprising:

a synthesizing apparatus for generating a synthesized sound electrical signal by synthesizing an audible sound signal and a robot operation signal;

a transmission path for transmitting the synthesized sound electrical signal;

an extraction apparatus for receiving the synthesized sound electrical signal and extracting the robot operation signal from the synthesized sound electrical signal;

a drive apparatus for driving a movable section of the robot using the robot operation signal extracted by the extraction apparatus; and

an acoustic signal outputting apparatus for converting the synthesized sound electrical signal received from the transmission path and outputting externally.

52. (Withdrawn) An apparatus for transmitting acoustic signals according to claim

51, wherein said synthesizing apparatus is provided internally in a computer equipped with a sound board, and the computer system outputs the synthesized sound electrical signal generated by the synthesizing apparatus to the transmission path by way of the sound board; and the transmission path transmits the acoustic signal by means of electrical signals or electromagnetic waves.

53. (Withdrawn) An apparatus for transmitting acoustic signals, comprising:

an audible sound signal generation apparatus for generating an audible sound signal;

a robot operation signal generation apparatus for generating a robot operation

signal;

a synthesizing apparatus for generating a synthesized sound electrical signal by electrically synthesizing the audible sound signal generated by the audible sound signal generation apparatus and the robot operation signal generated by the robot operation signal generation apparatus; and

an outputting apparatus for outputting the synthesized sound electrical signal generated by the synthesizing apparatus.

54. (Withdrawn) A method for transmitting acoustic signals comprising:

a step of generating an audible sound signal on the basis of input text information;

a step of generating a robot operation signal on the basis of the input text information;

a step of synthesizing the audible sound signal and the robot operation signal; and

a step of outputting the synthesized sound electrical signal.

55. (Withdrawn) A computer-readable recording medium containing a program to execute steps comprising:

a step of generating an audible sound signal on the basis of input text information;

a step of generating a robot operation signal on the basis of the input text information;

a step of synthesizing the audible sound signal and the robot operation signal;
and

a step of outputting the synthesized sound electrical signal.

56. (Withdrawn) An apparatus for transmitting acoustic signals comprising:

an inputting apparatus for inputting a synthesized sound electrical signal generated by synthesizing an audible sound signal and a robot operation signal;

an extraction apparatus for extracting the robot operation signal from the synthesized sound electrical signal input in the inputting apparatus;

a drive apparatus for driving a movable section of the robot using the robot operation signal extracted by the extraction apparatus; and

an acoustic signal outputting apparatus for converting the synthesized sound electrical signal input in the inputting apparatus into an acoustic signal, and outputting the acoustic signal.

57. (Withdrawn) A method for transmitting acoustic signals comprising:

a synthesizing step for synthesizing a synthesized sound electrical signal by processing an audible sound signal of a commercial message and coupon data relating to the commercial message;

a sending step for sending the synthesized sound electrical signal by broadcasting;

an accumulating step for receiving through a computer network the coupon data extracted from a broadcast made in said sending step, on the basis of the synthesized

sound electrical signal, from a person receiving the broadcast, and accumulating the coupon data separately for each person receiving the broadcasting.

58. (Withdrawn) A method for transmitting acoustic signals according to claim 57, wherein based on the coupon data accumulated in said accumulating step, a special incentive awarding step is provided for awarding a special incentive associated with commercial dealings to the person receiving the commercial message.

59. (Withdrawn) A method for transmitting acoustic signals according to claim 57, wherein said synthesizing step generates a synthesized sound electrical signal using a data hiding technique.

60. (Withdrawn) A method for transmitting acoustic signals according to claim 57, wherein said coupon data include sending discrimination information to discriminate sending of broadcasts.

61. (Withdrawn) A method for transmitting acoustic signals according to claim 59, wherein said accumulating step is related to checking of coupon data using the sending discrimination information.

62. (Withdrawn) A method for transmitting acoustic signals according to claim 58, wherein said coupon data include data relating point counts of the coupon; said accumulating step accumulates data related to counts of the coupon for each

person receiving commercial messages through a computer network, and

in said incentive awarding step, a incentive corresponding to the coupon counts is awarded to a person receiving the commercial message.

63. (Withdrawn) A method for transmitting acoustic signals according to claim 57, wherein said computer network is the Internet.

64. (Withdrawn) A method for transmitting acoustic signals according to claim 58, wherein

said synthesizing step and said accumulating step are performed by an advertising agent requested by an advertising owner of a commercial message.